

REMARKS

The indication that claims 15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims is acknowledged. Applicants note that claims 15 and 18 have been retained in dependent form at this time.

By the above amendment, claims 9, 23 and 24 have been canceled without prejudice or disclaimer of the subject matter thereof, with the features recited in such canceled claims being incorporated in either the independent or other dependent claims of this application, while further clarifying the features of the independent claims, as will be discussed below. Additionally, new dependent claims 25 - 28 have been presented reciting further features of the present invention.

At the outset, applicants note that the present invention is directed to a particular structural arrangement or layout of a vacuum processing apparatus, wherein separate and individual vacuum processing chambers, as represented by a vacuum processing chamber 103 and another separate vacuum processing chamber 104, are arranged adjacent one another as illustrated in Figs. 1 and 2 of the drawings of this application, and a transfer unit 105 and a mass flow controlling unit 107 are each disposed between side wall portions the adjacent vacuum processing units 103 and 104. As described in the specification of this application, this structural arrangement facilitates attachment and detachment of processing units or control units of the vacuum processing apparatus in a manner not disclosed or taught in the cited art.

More particularly, by the present amendment, independent claim 1 has been amended to clarify the structural arrangement of the processing chambers as

represented by the vacuum processing units or chambers 103 and 104 which are disposed adjacent one another. That is, claim 1, and in a similar manner, independent claim 10, have been amended to recite that each of the processing chambers is configured with a top, bottom and side wall portions which are separate from the adjacent processing chamber, as is readily apparent from Figs. 1 - 4 of the drawings of this application, for example. Additionally, although independent claim 1 has been amended to recite "each of said two adjacent processing chambers being detachably coupled to said transfer unit on one respective side wall portion thereof to said transfer unit", while independent claim 10 recites the feature of each of the two vacuum processing chambers "being respectively detachably connected to the vacuum processing apparatus", while dependent claim 11 which depends from claim 10 recites the feature of "each of the two adjacent vacuum processing chambers is detachably connected on one respective side wall portion thereof to the transfer unit", which features are clearly disclosed in the specification and illustrated in the drawings thereof. As also illustrated, and as recited in the independent claims, the controlling unit 107 is disposed between the side wall portions of the two adjacent processing units 103 and 104. Further, the two adjacent processing chambers are detachably connected to the control unit or plural controllers on a different side wall portion than that of the detachable connection to the transfer unit. Applicants submit that the recited features as now set forth in the independent and dependent claims are not disclosed or taught in the cited art, as will become clear from the following discussion.

The rejection of claims 1, 7, 9 and 23 under 35 USC 102(b) as being anticipated by US Patent No. 6,143,082 to McInerney et al; the rejection of claims 8 and 24 under 35 USC 103(a) as being unpatentable over McInerney et al; and the

rejection of claims 10 - 14, 16 - 17 and 19 - 20 under 35 USC 103(a) as being unpatentable over US Patent No. 6,143,082 to McInerney et al in view of Japanese Patent No. 08-127861A to Naito et al; such rejections are traversed insofar as they are applicable to the present claims and reconsideration and withdrawal of the rejections are respectfully requested.

As to the requirements to support a rejection under 35 USC 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

As to the requirements to support a rejection under 35 USC 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under '103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be

"obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Turning to the Examiner's interpretation of McInerney et al with respect to the claimed invention, applicants note that the Examiner contends that any adjacent two of A-D in Figs. 1 - 3 of McInerney et al represent two adjacent processing chambers. Applicants submit however, that McInerney et al discloses a "multi-station processing chamber 100 wherein the chamber 100 includes a chamber base 102, a wafer

indexing plate 104 and a chamber top 106," (emphasis added) as illustrated in Fig. 1 of McInerney et al, and which parts cooperate to delimit stations A - D. Even assuming, arguendo, as apparently contended by the Examiner, that each station represents a processing chamber, it is readily apparent that McInerney et al in the sense of 35 USC 102 or 35 USC 103 fails to disclose or teach that each processing chamber or station A-D in McInerney et al is "configured with a top, bottom and side wall portions which are separate from the adjacent processing chamber" (emphasis added), as essentially recited in independent claims 1 and 10 of this application. That is, each station A-D of McInerney et al, while having a separate pedestal and shower head has a common base 102, which includes a common top surface 108, which may be considered to represent a bottom and side wall portions, together with a common top 106. Thus, it is readily apparent that McInerney et al does not disclose or teach the structural arrangement as now recited in independent claims 1 and 10 and the dependent claims thereof. Thus, irrespective of the Examiner's contention that the indexing plate 104 represents a transfer unit, it is readily apparent that the stations A - D of McInerney et al, which are not adjacent processing chambers, as claimed, are also not detachably coupled on one respective side wall portion thereof to the transfer unit, as recited in claim 1, or as recited in dependent claim 11. Furthermore, while the Examiner contends that McInerney et al discloses a mass flow controlling unit, referring to 150 in Fig. 3 of McInerney et al, which is disposed between (at the center of) all of the processing chambers, applicants note that Fig. 3 shows that the controller 150 is disposed above the station A-D and outside of the multi-station processing chamber 100, such that irrespective of the Examiner's contentions, McInerney et al does not disclose or teach a mass flow control unit disposed between the side wall portions of the two adjacent chambers,

as recited in independent claims 1 and 10. Further, McInerney et al does not disclose the physical layout as recited in the claims of this application, irrespective of the Examiner's contentions with regard thereto. Accordingly, applicants submit that independent claims 1 and 10 and the dependent claims which recite further features of the present invention patentably distinguish over McInerney et al in the sense of 35 USC 102 and 35 USC 103, and all claims should be considered allowable thereover.

With respect to dependent claims, such as claims 8 and 24, the Examiner contends that with respect to the vertical arrangement of the parts, such is an obvious matter of design that could be arranged, if desired. Applicants submit that as described in the specification of this application, the particular arrangement of parts, as recited in the claims facilitates processing and arrangement of the vacuum processing apparatus and such features cannot be ignored. More particularly, the Examiner has engaged in the principle of "obvious to try, which is not the standard of 35 USC 103. See, In re Fine, supra. Further, as to the Examiner's suggestion that it would be obvious to provide the structural arrangement, the Examiner is utilizing what applicant has taught against the teacher, which is not proper. See, In re Lee, supra. Thus, applicants submit that all claims patentably distinguish over McInerney et al and should be considered allowable thereover.

With respect to the addition of Japanese Patent No. 08-127861A to Naito et al to overcome deficiencies of McInerney et al, the Examiner recognizes that McInerney et al fail to teach the two adjacent vacuum processing chambers being supplied with the processing gas to generate plasma utilized for processing a wafer disposed therein. The Examiner contends that since Naito et al teach providing plasma generation means and plasma processing gas, it would be obvious to utilize

the same in McInerney et al. Assuming, arguendo, that a processing gas for generating a plasma could be supplied, applicants submit that Naito et al, like McInerney et al fail to provide the structural arrangement of a vacuum processing apparatus as recited in the independent and dependent claims of this application. Additionally, applicants submit that since Naito et al discloses or separate or individual vacuum processing chambers 3A and 3B, for example, which is structurally different from the disclosure of McInerney et al, the cited art cannot be properly combined and fails to provide for the vacuum processing chambers being detachably connected to the vacuum processing apparatus with a mass flow controller or plural controllers disposed between the side wall portions of the two adjacent vacuum processing chambers, as recited in independent and dependent claims of this application. Thus, applicants submit that all claims patentably distinguish over this proposed combination of references in the sense of 35 USC 103, and all claims should be considered allowable thereover.

In view of the above amendments and remarks, applicants submit that all claims present in this application should now be in condition for allowance and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to the deposit account of Antonelli, Terry, Stout & Kraus, LLP, Deposit Account No. 01-2135 (Case: 648.43120X00), and please credit any excess fees to such deposit account.

Respectfully submitted,

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